CALFED Bay-Delta Program Project Information Form
Watershed Program – Full Proposal Cover Sheet

Attach to the cover of full proposal. All applicants must fill out this Information Form for their ***Proposal. Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.***

1. Full Proposal Title: Promotion of Farming Best Management Practices and Calibration Technology to Mitigate OP Pesticide Runoff into the Sacramento River Watershed
   Concept Proposal Title/Number: 0065
   Applicant: Coalition for Urban/Rural Environmental Stewardship (CURES), Sacramento, CA (primary); Glenn County Department of Agriculture, Surface Water Stewardship Program
   Applicant Mailing Address: 1801 I Street, Suite 200, Sacramento, CA 95814
   Applicant Telephone: (559) 325-9855 Applicant Fax: (559) 325-9856
   Applicant Email: parryk@mediaone.net
   Fiscal Agent Name (if different from above): Parry Klassen
   Fiscal Agent Mailing Address: 196 Bedford Ave. Clovis, CA 93611
   Fiscal Agent Telephone: (559) 325-9855 Fiscal Agent Fax: (559) 325-9856
   Fiscal Agent Email: parryk@mediaone.net

2. Type of Project: Indicate the primary topic for which you are applying (check only one)

_____ Assessment	___ Monitoring
_____ Capacity Building	__X _ Outreach
_____ Education	_____ Planning
_____ Implementation	_____ Research

3. Type of Applicant:

_____ Academic Institution/University	__X__ Non-Profit
_____ Federal Agency	_____ Private Party
_____ Joint Venture	_____ State Agency
_____ Local Government	_____ Tribe or Tribal Government

4. Location (including County):

   What major watershed is the project primarily located in:
   - ____ Klamath River (Coast and Cascade Ranges)
   - __X_ Sacramento River (Coast, Cascade and Sierra Ranges)
   - ____ San Joaquin River (Coast and Sierra Ranges)
   - ____ Southern CA (Coast and Sierra Ranges)
   - ____ Tulare Basin (Coast, Sierra and Tehachapi Ranges)

5. Amount of funding requested: $617,317
   Cost share/in-kind partners? __X__ Yes _____ No
   Identify partners and amount contributed by each:
   Pessl Instruments Ltd., Austria ($13,341)
   Makhteshim-Agan North America ($50,000)

6. Have you received funding from CALFED before? _____ Yes __X__ No
   If yes, identify project title and source of funds:

By signing below, the applicant declares the following:

1. The truthfulness of all representations in their proposal
2. The individual signing this form is entitled to submit the application on behalf of the applicant (if the applicant is an entity or an organization)
3. The person submitting the application has read and understood the conflict of interest and confidentiality discussion in the Watershed Program Proposal Solicitation Package and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent provided in the Proposal Solicitation Package.

Parry Klassen, Executive Director, CURES (Coalition for Urban/Rural Environmental Stewardship) Printed name of applicant

_____

Signature of applicant

1. Project Description, Assumptions, Outcomes, Timetable, Methodology

CURES (Coalition for Urban/Rural Environmental Stewardship), Glenn County Department of Agriculture, Surface Water Stewardship Program, along with its collaborators, is pursuing funds to implement an outreach and education program target to farmers and crop advisors regarding pesticides and protecting water quality in the Sacramento River watershed. This proposal encompasses key components of a plan submitted on May 1 to U.S. Environmental Protection Agency entitled "Water Quality Management Strategy For Diazinon in the Sacramento and Feather Rivers." This strategy was developed by the Sacramento River Watershed Program (SRWP), Organophosphate Focus Group (OPFG), a group of stakeholders working to improve water quality in the watershed.

This project intends to achieve the following goals for the project within a three-year time frame, beginning in November 2001.

1. Develop and execute the objectives described by the OPFG Ag Implementation Group (AIG) (see question 2 for AIG description and membership).
2. Minimize the off-site movement of pesticides from farms into the Sacramento River Watershed.
3. Minimize toxicity to aquatic systems;
4. Work to achieve these goals within a three-year time frame.

The project seeks to undertake a 3-year outreach and education program in the Sacramento River watershed to accomplish the following objectives:

1. Raise the awareness level of growers in the Sacramento River watershed about pest management strategies, pesticide application methods and on-site practices that can minimize pesticide runoff, thereby improving ecosystem quality and water quality.
2. Showcase these practices through educational materials and events in the watershed.
3. Create and encourage the completion of farm environmental site reviews.
4. Track the adoption of management practices to protect water quality by growers in the watershed.
5. Provide adequate monitoring and reporting to assess performance of the plan.

Funding this project would substantially assist the SRWP OP Focus Group as it implements its strategy for protecting that watershed from diazinon runoff. In addition to providing a viable means of assisting those efforts, support for this project would help lay groundwork for a similar endeavor just underway on the San Joaquin River related to the pesticide TMDL. This is effort is organized locally by watershed groups, farm organizations and other stakeholders.

The CALFED concept proposal anticipated that this project would involve both the Sacramento and San Joaquin River watersheds. However, the project collaborators determined that it would be more prudent to concentrate outreach and education efforts in only the Sacramento River watershed at the present time. The basic project remains unchanged (outreach and education), but the project area has been scaled back. The applicant intends to focus all efforts on the Sacramento River watershed and then pursue funding later to expand the effort to the San Joaquin River watershed as the goals and objectives of the CALFED Watershed Program are met in the Sacramento River watershed.

Assumptions: Pesticides, in particular diazinon, are being detected in the Sacramento River because they are used in the watershed to control pests in orchards and are subsequently washed into rivers by rainstorms. Growers apply pesticides to their orchards and fields to guard against crop damage caused by nearly a dozen economically harmful pests. A strategy for solving the pesticide runoff problem must focus on the pests, the technology and practices for controlling the pests and practices to prevent movement of pesticides off-site.

For many years, pesticides have been the most effective technique for controlling pests. Growers buy pesticides at local retail chemical dealers and are advised on their use primarily by Pest Control Advisor (PCA) crop consultants that are employed by the retail dealers, or independent PCA crop consultants. Growers also make pest control decisions based on their own knowledge and training. Other sources of information on pests and pest control techniques are provided by local University of California farm advisors and commodity organizations.

Diazinon has been widely used for more than 20 years by growers in the Sacramento River watershed. It is relatively inexpensive, has broad-spectrum control of pests, and has simple, straightforward use requirements for controlling orchard pests. However, diazinon has unique physiochemical properties that allow it to be transported in storm runoff to rivers, where at high enough levels, it can be harmful to aquatic invertebrates.

A strategy to improve water quality in the Sacramento River that involves modifying use patterns of diazinon or replacing it with other products must involve all entities, which this project will include, that provide growers with information on pests and pest control. Most available pest control alternatives to diazinon require a much higher level of accurate information about the pests, their habitat and other variables to perform adequately. For instance, using newer low risk pest control technologies require increased field scouting and expertise in pest biology to be effective. These alternatives also can require multiple applications that must be timed accurately to be effective.

Outcomes: The primary expected outcome of this project is to motivate growers to integrate permanent changes in their farm management practices that have the best potential to protect surface water quality. Implementation of these practices is expected to minimize the off-site movement of pesticides into the watershed. Success of this project will ultimately be determined by monitoring the changes that take place with regard to adopting management practices that protect water quality and the improvement to water quality throughout the watershed (minimizing pesticide runoff into the Sacramento River.)

The tasks proposed in this project also have anticipated secondary outcomes that will contribute to reductions in pesticide runoff into surface water and can help restore the overall water quality of the watershed. By identifying landholders with fields on riparian that use targeted pesticides (organophosphates), we can promote practices to those operations that are the most likely sources of the runoff. In creating new water quality educational materials, we will rely on the latest verified research and information on crop-specific management practices to persuade farmers to implement these practices. The farm environmental site review will enable farmers to see what aspects of their operation might contribute to off-site pesticide movement. Working through project collaborators to contact targeted growers will ensure a higher probability of transferring information and technology and foster future community involvement in protecting the watershed ecosystem, water quality and water supply. By organizing tours/demonstration meetings at farms or test plots using management practices that protect water quality, we will provide the opportunity for farmers to see the latest technology in commercial and localized conditions. By providing calibration instruments to "tune" grower's sprayers to maximum efficiency the total pesticide load in the watershed will be reduced.

Timetable:

Most of the outreach activities in this project will occur November 1 to March 30 during each year of the three-year project. This is the time when growers, PCAs, ag workers, and other agricultural related professions attend meetings for continuing education credits and other informational needs, such as pest control. In addition, project materials will be available year round at local retail chemical dealers and other community outlets.

Project Timeline

July – November 2001	Develop materials; Develop presentation; Schedule meetings; Organize demonstration farms
Nov 2001 – March 2002	Distribute materials to pesticide users; Presentations to grower/PCA groups; Demonstration farm field days
Nov 2002 – March 2003	Presentations to grower/PCA groups; Demonstration farm field days; Distribute postcards, other reminder materials
Nov 2003 – March 2004	Presentations to grower/PCA groups; Demonstration farm field days; Distribute postcards, other reminder materials

Project Benchmarks

Nov 2001 – March 2002	Distribute 3000 Water Steward information packets
Nov 2002 – January 2003	Mail 3 reminder materials to 3000 orchard growers
Nov 2003 – January 2004	Mail 3 reminder materials to 3000 orchard growers

Each Winter and Spring, CURES will coordinate meetings and presentations designed to inform growers about the pesticide runoff problem and a review of practices designed to minimize off-site movement of pesticides. There will also be field days and tours of demonstration farms to showcase effective management practices that protect water quality. In addition there will be initial surveys to develop baseline knowledge of management practices that are presently being used.

In years 2 and 3, follow-up surveys to assess progress in adoption of these practices will be performed. The demonstration farms and presentations will include updated information on effective management practices to protect water resources.

Reports will be compiled and presented CALFED, CA Department of Water Resources, CA Department of Pesticide Regulation, and the Central Valley Regional Water Quality Control Board after the close of each dormant season to assess progress of the project's effectiveness and document successes and areas which need improvement.

Methodology: CURES, along with local collaborators, intends to realize the project objectives and goals through the following tasks:

A. Identify landholders with fields on riparian and users of target pesticides.

The initial and primary target audience of this outreach program will be growers who own property adjacent to rivers and creeks where pesticide field runoff and spray drift is most likely to be contributing to the problem. Data analysis will be used to identify these landholders. Education efforts will focus on farming practices and technology aimed at reducing or eliminating off-site movement of pesticides. Landowners with property adjacent to riparian have a special responsibility in their use of crop protection products. Our belief is that pesticide runoff should be initially approached from its most logical source: land directly adjacent to streams and rivers. Once those growers are contacted, any alternative practices that are

recommended must be justifiable and economically sustainable. Changes in pesticide use must be viewed as they impact the growers' total farming program and not take the single issue out of context. This approach will increase the likelihood of adoption of sustainable growing practices as well as practices for managing the watershed and protecting the environment that are effective now and in the future.

B. Create and distribute water quality educational materials.

The project will initiate an outreach campaign targeted at pesticide users in the Sacramento River watershed. A key component of the campaign will be to encourage farmers to become certified "Water Stewards" by signing a stewardship pledge. This pledge will include a commitment to:

- Identify sensitive areas on their farm including surface water resources;
- Follow good applications practices when making dormant sprays;
- Inform equipment operators about good application practices;
- Consider alternative pest control or on-site practices;
- Study the Water Steward educational materials;
- Complete a voluntary site assessment.

Materials for the program will be provided to farmers when they purchase pesticides at local retail chemical dealers in the Sacramento River watershed community and also through County Agricultural Commissioners, County Farm Bureaus, commodity groups and irrigation districts. Materials will also be distributed during informational presentations and through targeted mailings. Additionally promotion of events and meetings will take place through use of internet websites, such as the CURES site and other sites of commodity organizations and local groups.

C. Create farm environmental site reviews and conduct baseline and follow-up management practices survey.

Farmers will be given the opportunity to participate in a voluntary site assessment performed by a local PCA (results confidential) that will be developed by CURES and project collaborators. Participants will also be asked to participate in a voluntary survey of orchard management practices to develop baseline information on existing practices. Helena Chemical Co., a major retail farm supply company in the Sacramento Valley and collaborator on this proposal, will provide college interns to assist in follow-up calls and visits to growers in the region. Follow-up surveys will be performed in subsequent years of the program to monitor progress toward adoption of management practices that protect water quality.

D. Organize collaborators to assist targeted growers in completing a site review.

A major theme for the outreach activities and materials will be taking responsibility for actions related to pesticide use on their farms and in the watershed. Growers will be provided information on local contacts or agencies that can provide resources and expertise for evaluating their sites and adopting the various practices being promoted. Farmers will also be encouraged to participate in local watershed groups. Field days and other growers meetings will also be promoted through various media and local collaborators, including the County Agricultural Commissioners, local commodity groups, local crop protection retailers and crop consultants, and the Sacramento River Watershed Program (SRWP).

CURES will also work closely with the SRWP, NRCS, local irrigation districts, and county Farm Bureaus to facilitate selection of demonstration farms and assist in promoting to members localized field tours, demonstration farms, and events.

E. Identify farms using best management practices for field tours/demonstration farms.

Promoting adoption of best management practices (BMP's) to protect surface water will be facilitated though the use of demonstration sites, some that are already in place and others still in development. The project will work in cooperation with existing programs (i.e. CA Dried Plum Board EPA 319h grant project) to expand the number of sites accessible to growers. Clustered demonstration sites will be developed as part of the research programs to target farm communities with cultural and/or language barriers to adopt management practices that protect surface water, e.g. Mennonite or Punjabi communities.

F. Provide calibration service to riparian growers.

The project seeks to purchase high-tech calibration instruments with new technology that will be used to calibrate growers existing sprayer equipment. Proper sprayer calibration can significantly improve the efficiency of many air blast sprayers used in Sacramento Valley orchards, thus reducing the total amount of pesticide applied per acre in the watershed. Funding the purchase of such calibration instruments will lay the groundwork for an ongoing program to assist growers in keeping their current sprayers "tuned-up."

The instruments will be transported to growers throughout the watershed by project collaborators Wilbur-Ellis and Helena Chemical Co. Their trained employees (these companies will rotate these activities alternate months) will assist growers in "tuning" their existing equipment to maximum efficiency. Growers will learn about the service through direct contact, project publicity and a section on the CURES website where growers can sign-up for a sprayer tune-up or view dates of upcoming sprayer clinics. The outcome expected from equipment calibration is improved efficiency of pesticide applications in orchards, thereby reducing pesticide load in the Sacramento River watershed.

G. Collaborate with existing projects studying practices to protect water quality.

CURES intends to closely align and coordinate our efforts with other programs and projects that share the stated water quality goals of the CALFED Watershed Program, such as the CA Prune Board CWA § 319(h) project with prunes and peaches in Butte County. It is also our intention to closely align our project with the proposed CA Dried Plum Board project "Implementation of Best Management Practices to Mitigate OP Pesticides Runoff," and the proposed CA Almond Board

Demonstration Farm project (funded by Prop 13), among other projects. Information being developed in both of these projects will be promoted through educational materials and in grower/PCA meetings included in this project.

The project will also assist in organizing tours and meetings for various demonstration sites showcasing management practices that improve water quality and new technology that minimizes pesticide inefficiencies. It should also be noted that members of the SRWP OP Pesticide Focus Group will be closely involved throughout the process of developing plans and outreach materials of this project.

This project will be an important piece of what is necessarily a multi-year, multi-disciplined, multi-focal effort on the part of diverse interests including growers, regulatory agencies, researchers, and environmental advocates. It is anticipated that many of the products of this effort can serve as the basis for materials and information transferable to the San Joaquin River watershed in future years.

2. Qualifications and readiness to implement the proposed project

a. Institutional structure, ability and experience to administer funds and conduct the project. Identification of fiscal agent responsible for administering the funds:

The Coalition for Urban/Rural Environmental Stewardship (CURES) is a non-profit organization formed to address environmental stewardship issues relating to the safe and sound use of crop protection products. CURES operates by forming coalitions with interested groups in industry, academia and government to develop funding and work on solutions to pesticide related problems. The CURES Board of Trustees is made up of individuals committed to this goal. Parry Klassen, the CURES Executive Director, is himself a small orchard grower whose career in agricultural communications spans 20 years. CURES has numerous past and current projects (see "c" below) related to pesticide stewardship and is fully capable of implementing the projects described in this proposal. CURES relies on the financial management expertise of Springer & Schletewitz Accountancy Corp., Fresno, to assist CURES in tracking budgets and administer funds of all projects. This firm is experienced in complex budget management for large agricultural firms and various small and large businesses.

An independent Board of Trustees chaired by Len Richardson, editor of *California Farmer* magazine, sets priorities for the group. CURES board members include:

- Len Richardson, CURES Chairman of the Board, Editor California Farmer
- Lon H. Records, President, Target Specialty Products
- R. Mark Layman, Division Manager, Helena Chemical Company
- Jean-Mari Peltier, President, California Citrus Quality Council
- Therese St. Peter, Zeneca Ag Products, Inc.
- Bryan Stuart, Dow AgroSciences

CURES will also rely on the collaboration and active participation of the SRWP Organophosphate Pesticide Focus Group (OPFG), Ag Implementation Group (AIG) to guide development and implementation of most activities in this proposal (CURES is an active member of the AIG.) The AIG is also responsible for implementing the "Water Quality Management Strategy For Diazinon in the Sacramento and Feather Rivers."

Current members (and CALFED project collaborators) of the AIG include:

- Almond Board of California;
- California Dried Plum Board;
- California Farm Bureau Federation;
- California Plant Health Association;
- California Tree Fruit Agreement;
- Coalition for Urban/Rural Environmental Stewardship (CURES);
- Dow AgroSciences;
- Helena Chemical Co;
- Makhteshim-Agan;
- Syngenta Crop Protection;
- Wilbur-Ellis Co.

Advisory groups to the AIG include:

- University of California Integrated Pest Management program (UC-IPM);
- Natural Resources Conservation Service (NRCS);
- County Agricultural Commissioners in the Sacramento Valley;
- Sacramento River Watershed Program (SRWP).

CURES Executive Director, Parry Klassen, is responsible for managing the tasks outlined in this proposal and OPFG plan. He is well known by many in the local Sacramento River watershed community. CURES has conducted many stewardship programs involving education and outreach throughout California, with most of its emphasis in the Sacramento River watershed. Parry Klassen will be the fiscal agent responsible for administering the funds with the accounting and project auditing performed by Springer & Schletewitz Accountancy Corp., Fresno. Mr. Klassen can be contacted through the following ways:

Parry Klassen, CURES
1801 I Street, Suite 200
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b. Technical Support:

Local CALFED project collaborators who will also provide technical support include County Agricultural Commissioners (Butte, Glenn, Sutter, Yuba), and retail crop protection dealers who serve farmers (Helena Chemical Co. and Wilbur-Ellis Co.). In addition to support, these collaborators provide strong local credibility and access to agricultural pesticide end-users, as well as technical knowledge provided by Pest Control Advisors (PCA). The PCA will play a pivotal role in encouraging adoption of management practices to protect water quality as many of them function as agronomists also. CURES will also work closely with the SRWP, NRCS, local irrigation districts, and county Farm Bureaus to facilitate selection of demonstration farms and assist in promoting to members localized field tours, demonstration farms and events.

c. Previous projects of this type, funded either by CALFED or other programs:

The SRWP, OP Focus Group retained CURES to organize a grower outreach program on protecting water quality in the Sacramento Valley in 2000-2001. This program consisted of CURES Executive Director Parry Klassen giving 19 presentations that described the pesticide runoff problem, the current regulatory framework, and a review of farm management options being developed by the OPFG. Between October 2000 and March 2001, a combined audience of more than 2500 growers and PCAs in the Sacramento River watershed heard the presentations. Local newspapers and farm trade publications also provided media coverage, further expanding the audience exposed to the SRWP outreach efforts.

The Sulfur Task Force, made up of the manufacturers, distributors and users of sulfur in California, retained CURES to create a dusting sulfur stewardship program in California. Dusting sulfur is widely used in the state on grapes and row crops. Increasing complaints about sulfur drift in recent years prompted the CA Department of Pesticide Regulation in November 1999 to ask sulfur registrants to modify sulfur labels to address drift and implement a statewide grower stewardship program. The Sulfur Task Force and CURES published a 4-page booklet entitled “Sulfur Best Application Practices” and distributed more than 20,000 copies May 2000 to grower groups and farm chemical dealers in California. This booklet is one of several projects CURES developed for the task force to inform growers about managing sulfur drift near sensitive areas. A Spanish language version is in the works as is a version for aerial applicators. CURES also developed a grower meeting presentation that was heard by more than 2000 growers at various grape and row crop organization meetings since January 2000.

CURES developed and organized a water quality presentation targeted to urban professional pesticide applicators between November 1999 and April 2000. More than 2700 commercial pesticide applicators in California heard the CURES presentation on protecting water quality. Stewardship presentations were given at seven Pesticide Applicator Professional Association (PAPA) training meetings, through funding from RISE (Responsible Industry for Sound Environment). The presentation described the water quality issue, the impending Clean Water Act regulations (TMDLs), and Best Management Practices that can reduce the movement of pesticides into water.

The Metam Sodium Task Force began its second year program with CURES to develop and distribute stewardship materials and promote stewardship practices for growers and applicators in the West who use metam sodium biocide. CURES is worked with the Task Force to create stewardship booklets on various application techniques along with educational slide shows for training meetings and other materials.

CURES has given a number of seminars entitled “Managing Pesticide Drift: Understanding Your Options,” the most recent to a grower meeting organized by the San Luis Obispo County Ag commissioner’s office. Speakers from makers of high-tech sprayers and nozzles also participated in the half-day training and demonstration event for growers and applicators on the Central Coast.

The farmworker training manual “Proteccion de su Salud: Proteccion de Trabajadores Expuestos a Pesticidas” was published in May by CURES and the California Plant Health Association. More than 105,000 copies were distributed to workers through Western Farm Press newspaper and government, rural health, and farm worker organizations in the West.

CURES has developed and distributes numerous additional brochures and booklets on management practices for reducing pesticide runoff including:

1. Orchard Air Blast Sprayers – Tips and Techniques: Protecting Water Quality, a stewardship booklet for orchard sprayers.
2. Field and Row Crop Sprayers – Tips and Techniques: Protecting Water Quality, a stewardship booklet for field and row crop sprayers
3. Mixing and Loading Crop Sprayers - Tips and Techniques: Protecting Water Quality, English and Spanish Language versions.
4. Residential Pest Control Landscape Management - Tips and Techniques: Protecting Water Quality.
5. Keeping Pest Control Products out of Creeks, Rivers, and the Ocean – Homeowner Tips: Protecting Water Quality.
6. Tip Sheet for Urban Applicators: Protecting Water Quality.
7. Homeowner Tips For Protecting Water, 6-panel brochure.
8. Website where CURES materials are available for downloading or ordering (www.curesworks.com).

3. Provide a completed budget cost sheet and describe the basis for determining project costs, including comparisons with other similar projects, salary comparisons, and other listed costs. Include all costs of environmental compliance, such as CEQA and/or NEPA, and permits. Describe how the approach to achieving the stated goals of the project demonstrates an effective cost relative to its anticipated benefits.

(Full budget is attached)

As a result of reducing the geographic area of the project as referred to in question 1, the total budget is less than the concept proposal. The anticipated timeframe for the project is from November 2001 to October 2004. The applicant seeks to begin the primary outreach and education prior to the beginning of the 2001 dormant orchard spraying season (approximately November 1). Funding from the Department of Water Resources has been indicated to take place from three to six months after approval of the project (September 2001 through December 2001). If project approval is granted in June 2001, the applicant request partial funding prior to November 2001 in order to develop materials and resources to make them available for distribution throughout the entire 2001-02 dormant spray season.

As of April 27, CURES has secured matching funding for this proposal from two organizations: Pessl Instruments ($13,341) the makers of the calibration instruments and from Makhteshim-Agan ($50,000), the registrant for diazinon insecticide. Other sources of matching funding are being pursued and will continue throughout the project implementation period.

Many of the costs for education and outreach are in the form of development of materials (layout, writing, printing and duplicating of pamphlets and postcards, videos etc.), organizing meetings and presentations, project monitoring (surveys, compiling of results), reports (writing), and project management. The projected costs are based on estimates of time and materials from performing similar tasks in the last two years. The salaries of individuals performing the work (or in this case professional consultant fees) are comparable to the fee averages charged in the Sacramento region for writing, production, presentations, and project management. See attached budget cost sheet for details.

Since this project's primary emphasis is education and outreach none of the foregoing tasks will be altering or affecting the environment in any way that requires NEPA or CEQA compliance. Therefore there will be no costs associated with NEPA or CEQA compliance in this project.

The judgement of success with a project of this type will be ultimately measured by how well the goals and objectives of the CALFED Watershed Program are fulfilled by this project. Success will also be measured on a smaller scale by how well the project goals and objectives are met. However, throughout the timeframe of this project, many sub-goals have been set to measure success. Each task has an anticipated completion date for itself. Success will be measured by how well each particular task is completed in a timely manner. For example, this project has a goal to have all of the water steward program materials ready for distribution prior to the beginning of the 2001 dormant season. If this goal is accomplished, it will be a small achievement of success for the project.

Other tasks, such as follow-up surveys, will measure success by reporting progress toward implementation of management practices that protect water quality. Success with regard to meetings and demonstration farms will be measured by active participation from local growers, PCAs, and others in agriculture. It will also measure through meeting feedback surveys how well the project goals are received by those attending the meetings. Another measurement of success will be with regard to how well this project is able to adapt to presenting management practices that fit local crops and local conditions. Feedback surveys, follow-up surveys, and site assessments will provide valuable information with regard to adaptive management processes and redirection of outreach necessary to achieve the goals and objectives of CALFED.

We believe that the type of approach presented in this project (presentations, meetings, demonstration farms, and distribution of materials) offers the best method of education and outreach to obtain the objectives and goals of the CALFED Watershed Program. Organized winter meetings, most of which are already established events, are the most effective method to reach growers, PCAs and others in the agricultural profession with new information concerning practices and concerns. Demonstration farms will help to alleviate concerns about costs and feasibility as growers/PCAs view these practices working in actual field demonstrations.

The educational materials on protecting water quality developed for this project will have a useful life much longer than the three-year project, providing an effective use of the funds relative to the anticipated benefits. Educational materials can be reused (if needed) and reprinted for other water quality projects in the state for 5 to 10 years, possibly longer.

The calibration instruments proposed for this project have a useful life of 20 or more years. By transporting this equipment to many growers throughout the watershed, the benefit increases as these growers calibrate their existing equipment to maximum efficiency. When growers in the watershed area adopt this technology on their farms, it will prove to be a very effective cost in relation to the benefit of decreased pesticide runoff, thereby improving water quality and ecosystem quality. After this project is completed, the calibration instruments will continue to be used by project collaborators in the watershed.

After reviewing Section 8 Terms and Conditions within the Proposal Solicitation Package (PSP), the applicant agrees to comply with all of the state standard terms that are set forth in the PSP.

4. Describe the technical feasibility of the proposed project.

This project provides a very practical method of education and outreach to implement the goals and objectives that are in step with the goals and objectives of the CALFED Watershed Program. By initially targeting growers who own property adjacent to rivers and creeks, education and outreach are focused on the most likely sources of pesticide runoff. Grower/PCA meetings are the most effective way to transfer current information available on management practices that protect water quality. By collaborating with local entities (county ag commissioners, retail chemical dealers, PCAs, state and county Farm Bureaus, SRWP, NRCS, local irrigation districts, UC extension services) we believe we have a comprehensive network to gain access to growers in the Sacramento River watershed community. As recently as November 2000 - March 2001, CURES has coordinated and implemented a similar grower outreach program with SRWP. This project will build on that successful program. Furthermore, this extensive local collaboration and integration will provide an excellent vehicle to gather growers and PCAs and distribute the latest and most effective management practices that protect water resources. By targeting growers/PCAs through this local network, it also enables them to create dialog with local entities to ensure the future success of the goals and objectives of the CALFED watershed program.

Reducing OP runoff from agriculture and the surface water toxicity associated along with other NPS pollutants such as sediment and nutrients can provide an important benefit to the regional ecosystem by reducing or eliminating the potential adverse impacts to ecosystem quality. This is particularly important to the recovery of at-risk species dependent on the Delta and other connected watersheds. Other benefits include improving and maintaining water and sediment quality and eliminating, to the extent possible, toxic impacts to organisms in the system. The local communities throughout the watershed will share these benefits.

a. Describe any similarity to previously implemented successful projects in this community or elsewhere.

This three-year strategy builds on activities that have occurred in the last five years in the Sacramento River Watershed. Awareness of the pesticide runoff problem has been increasing within the watershed area. However, this has only been as an introductory presentation to the problem. Additional outreach targeted at growers with riparian land should serve to further increase awareness and begin the process of changing to farming practices that minimize the off-site movement of pesticides and implement the CALFED objectives of improved ecosystem quality and improved water quality.

Since 1996, growers and farm groups have made progress in resolving the diazinon problem as illustrated by:

- More than a 50% reduction in use of diazinon on prunes and almonds in the Sacramento River watershed between 1995 and 1999 (DPR, Pesticide Use Reporting data, 1995-1999).
- Establishment of demonstration projects exhibiting cover crops and other practices to reduce surface water runoff in the Sacramento Valley have resulted in broader adoption of the practices in recent years..
- The Almond Board of California securing a Pest Management Alliance grant from DPR for identifying low-risk pest management practices in almonds, with field test sites established in the Sacramento River watershed (Chico). Almond Board Surveys indicate increased adoption of those practices, which is reflected in the diazinon use reduction.

During the last year, from March 2000 to March 2001, the Sacramento River Watershed Project (SRWP) Organophosphate Focus Group (OPFG) funded an outreach program through CURES aimed at growers and PCAs in the Sacramento Valley. This program consisted of 19 presentations that described the pesticide runoff problem, the current regulatory framework, and a review of farm management options being developed by the OPFG. Between October 2000 and March 2001, a combined audience of more than 2000 growers and PCAs in the Sacramento River watershed heard the presentations. Local newspapers and farm trade publications also provided media coverage of the presentations, further expanding the audience exposed to the SRWP outreach efforts.

b. If the project proposed a new approach or new method with a high likelihood of adding new knowledge and or techniques, or with the potential to fill identified gaps in existing knowledge, describe how it will do so, and what monitoring components will provide substantiation of results.

These educational outreach programs will be implemented with the goal of increasing orchard grower use of the practices on their farms above a baseline level that will be established in summer, 2001. Since the exact baseline acreage where these management practices are currently used has yet to be determined, expected improvements in adoption levels (in percentages) cannot be outlined in this strategy. However, the project will strive to increase the level of adoption with the goal of minimizing offsite movement of pesticides into water resources, resulting in minimized toxicity to aquatic organisms in the watersheds within the three-year time period of this project.

It should be noted that not all of the on-site practices for reducing pesticide runoff have been studied extensively in California for their ability to remove diazinon or other pesticides from surface water runoff. Many of the on-site practices (vegetation filter strips, grassy row centers, etc.) originated in the Midwestern portion of the United States where they have shown to be effective in reducing off-site movement of herbicides and nutrients. However, preliminary data developed in California does show that orchard vegetation can slow or stop sediment movement (which can contain pesticide residues) and also increase water infiltration into the soil profile, thus reducing the amount of runoff leaving an orchard. As many of these practices are adopted and adapted to fit local conditions, local crops, and local cultural practices, this information will become available to all growers by means of meetings, presentations outlined in this proposal, communications through collaborators, and farm trade press publicity. The follow-up surveys will provide important information with regard to adapting practices in the region.

The Project Management Team will ensure that the information being disseminated is consistent with existing CALFED Watershed Program objectives and complimentary to the outreach products of the SRWP program and project collaborators. The effectiveness of outreach efforts will be evaluated by follow-up grower surveys and farm site reviews, with results used to guide changes in the outreach program. This information will be combined with results from comprehensive surveys performed at year three of the program to determine how widely the alternative practices are adopted, the acreage affected by the practices and barriers to wider adoption. Farmers will also be surveyed when attending demonstration farms meetings to gauge adoption of practices on a local scale.

This monitoring approach (surveys and site reviews) will help to substantiate the effectiveness of this project and to direct changes in the outreach program design. The reporting plan for the project will be developed by the project management team in consultation with other members of the Ag Implementation Group.

The new technology proposed in this project is the use of calibration equipment designed to efficiently "tune" orchard sprayers to reduce pesticide load, not only on the particular growers land, but also to reduce the total amount of pesticide load throughout the watershed. Existing sprayers hold the potential for improvement in pesticide application efficiency. Recent studies by the Spray Drift Task Force attribute some off-sight pesticide movement to the improper set-up of sprayers, specifically adjusting spray nozzles to match the canopy profile of the target crop.

Proper sprayer calibration has the potential to significantly improve the efficiency of many air blast sprayers currently used in central California orchards, thus reducing the total amount of pesticide applied per acre throughout the watershed. The Pessl calibration system, manufactured by Pessl Instruments Ltd., Austria includes speed tester stand, single nozzle test stand, vertical distribution test stand, and PTO test stand. The equipment is used to calibrate and certify sprayers in the European Union, including the German Plant Protection Institute, by evaluating sprayer nozzle output and tree coverage. Instruments monitor tractor speed, air blast velocity, pump pressure, individual nozzle output, and vertical distribution. Also included is the Pessl instrument transport trailer, a 12-foot enclosed trailer for transporting the instruments.

Analysis of sprayers with the use of Pessl calibration instruments will reveal nozzles that are operating incorrectly, identify incorrect spray patterns, or other defects in the sprayer. These instruments will provide growers the opportunity to electronically examine the efficiency of their own sprayer set-ups and easily "custom design" their own sprayer discharge pattern to closely match canopy shape of individual orchards on their farm. We propose to purchase the advanced sprayer calibration instruments and hold grower calibration clinics and on-farm sprayer calibration sessions in the region with the assistance of Helena Chemical Co., Wilbur-Ellis Co. and other project collaborators. Reductions in pesticide runoff could be substantial if farmers bordering riparian utilize the calibration technology with management practices such as grass filter strips.

c. Explain how the finished project will be maintained as necessary, and to what degree it may require continued funding from outside the community.

The primary expected outcome of this project is to motivate growers to integrate permanent changes in their farm management practices and also adopt pesticide application technologies that have the best potential to protect surface water quality. Once these practices have become established throughout the watershed community, environmental benefits should be realized by continuation of these practices. Just as other practices become established through adoption by a significant number of growers in the community, these management practices that protect water quality will also become accepted as the "normal" way to manage riparian orchards. Depending on the farm economy, many of the practices may or may not require additional outside funding to continue. However, if the agricultural economy continues in the present state of recession, it may be necessary to provide additional funding to help implement the necessary changes.

The materials developed as a result of this project will continue to be useful educational tools for many years. Grower organizations, along with other local entities will continue to update growers/PCAs on practices that protect both ecosystem quality and water quality.

As the goals and objectives of this project are met this project could serve as a template for further expansion to other watersheds, such as the San Joaquin River watershed. This type of expansion would require additional funding, although it would not specifically target the Sacramento River watershed area.

5. Describe how the monitoring component of the project will help determine the effectiveness of the project implementation and assist the project proponent and CALFED with adaptive management processes.

Monitoring will occur in two areas:

1. Compiling and reporting attendance at demonstration site field days and continuing education meetings.
2. Monitoring the adoption of management practices that protect water quality by pesticide users in the watershed (through site reviews, baseline surveys and follow-up surveys).

Initial information for developing farm surveys and site reviews will come from the SRWP OPFG strategy, related SRWP projects and existing new management practices information. During the initial phase of the project, surveys will be conducted to gather information on current management practices being used by growers in the watershed area. The survey will consist of questions related to farm practices such as chemical use, sprayer types, calibration techniques, and tailwater return systems. It will also ask questions about pest management strategies, pesticide application methods and on-site practices that can minimize pesticide runoff to determine grower's familiarity with the subjects. Another part of the initial phase will be a voluntary on-site assessment of management practices conducted by a local PCA with results kept confidential.

All of the information gathered will provide a baseline to determine future progress with respect to adoption of newer and more effective management practices. As more and more growers adopt management practices that are effective in minimizing off-site pesticide movement, demonstration farms will be the "norm" rather than the exception.

In addition growers, PCAs, and other meeting attendees will be given the opportunity to provide feedback at meetings and events to help determine their opinions on solutions, unforeseen problems, and economic feasibility with regard to implementation of beneficial management practices. As information is gathered from site reviews, surveys, and feedback from meetings, the emphasis of outreach will be redirected if necessary based on adaptive management processes. Future meetings and events will communicate specific areas of concern and specific areas of achievement.

a. Identify performance measures appropriate for the stated goals and objectives of the project.

Success of implementing this strategy will be assessed throughout the three-year period and, we propose, be measured by several factors:

- Steady decrease in the detection levels of pesticides, mainly diazinon, in the Sacramento River watershed (improved water quality).
- Increased awareness of the pesticide runoff problem in the watershed community with respect to pest management strategies, pesticide application methods and on-site practices that can minimize pesticide runoff, thereby improving ecosystem quality and water quality.
- Widespread adoption of practices that protect ecosystem quality and water quality.
- Extensive distribution of educational materials throughout the watershed utilizing as many local entities as possible.
- Active grower participation in the aforementioned meetings and events.

b. Describe how this project will coordinate with and support other local and regional monitoring efforts.

CURES expects to closely monitor the efforts of other programs and projects that share the stated water quality goals of CALFED, such as the CA Dried Plum Board CWA § 319(h) project with prunes and peaches in Butte County. It is also our intention to closely align our project with the proposed CALFED project "Implementation of Best Management Practices to Mitigate OP Pesticides Runoff," among other projects. Information being developed in both of these projects will be promoted through educational materials and in grower/PCA meetings.

In October 2001, the research project in Butte County managed by the California Dried Plum Board will begin with funding from a US EPA 319(h) grant. Phase I activities of this project are focused on prune orchards in one small agricultural drainage area. A minimum of ten demonstration sites in the riparian zone of the drainage area will be established in the project. Ambient monitoring and site monitoring will demonstrate the effects of management practices on protecting water quality.

This project will work in conjunction with the Dried Plum Board project to communicate project goals, methods, and achievements. Outreach efforts will be targeted to reach the widest audience through use of field day meetings, newsletters, mass media, internet websites and coordination with the outreach efforts of any other reduced risk pesticide projects.

The demonstration sites already in progress with the Prune Board and others will enable collaborators to work with a core group of growers and then expand that knowledge base to growers throughout the watershed. An important component of convincing farmers to change management practices is developing practices to fit their local crops, growing conditions and

cultural practices. This requires extensive collaboration and communication concerning practices that will work for the local crops and growing conditions involved.

CURES will work with local entities to develop practices that ensure survival of the economic and social aspects of the community. Working with local experts and farmers in these areas will help ensure widespread adoption of practices to protect water quality, which ultimately fosters support and implementation of the water quality goals encompassed in CALFED. And should CALFED playing a significant role in funding local outreach efforts outlined in this project, it will help ensure continued development and refinement to reach those goals. An important part of our program is to evolve as new research results come forward. This will be achieved through support and direct involvement by several organizations and local agencies including:, UC Cooperative Extension Service, County ag commissioners, SRWP OP Pesticide Focus Group (OPFG), NRCS, commodity organizations, PCAs, and local retail chemical dealers.

c. Provide a description of any citizen monitoring programs that will be part of this project.

This project does not provide for any citizen monitoring programs.

d. What monitoring protocols will be used, and are they widely accepted as standard protocols?

The methods used by this project are standard protocols to measure the success of a program with these goals and objectives. Throughout each phase (after each dormant season) of the project, data from appropriate agencies (Central Valley Regional Water Quality Control Board and the Department of Pesticide Regulation) will be gathered to determine baseline levels of pesticides in the Sacramento River watershed. Each year this data will be gathered to determine progress toward the goal of improved water quality. The project will expect to see continued reduction in the levels of pesticides, mainly diazinon, found in the Sacramento River watershed in each subsequent year.

Follow-up surveys and site assessments will also be integral protocols of the monitoring part of the project. These will be compared to the initial surveys and assessments to determine progress. Meetings and presentations will be updated to present the latest results and to emphasize areas and subjects with the greatest need of improvement. We also anticipate that as efforts expand throughout the watershed, meeting attendance will more significantly represent the agricultural population of each local community. We expect grower participation to grow with regard to attendance at meetings and adoption of practices that protect water quality. Feedback surveys will be taken from each meeting and event to monitor opinions and progress toward achieving the project goals and objectives. Monitoring will also take place with regard to the distribution of materials through designated local outlets.

e. Describe how the type and manner of data collection and analysis will be useful for informing local decision making.

The project management team will use the data developed from surveys and other communications and apply adaptive management techniques to improve or modify this project. The data will be used to update future presentations and and educational materials and emphasize needed areas of improvements with regard to the off-site movement of pesticides. Information gathered from baseline and follow-up surveys, site reviews, and meeting and event feedback will provide local entities, such as the Agricultural Commissioners and SRWP, with adaptive management information. This information can then be used to modify or redirect existing outreach efforts throughout the watershed community to the appropriate areas of need.

6. If this project is to develop specific watershed conservation, maintenance or restoration actions, describe the scientific basis for the action(s) described in the proposal. Include the following:

a. Any assessment of watershed condition(s) that has already been developed by you or others.

In 1998, the Sacramento River Watershed Program (SRWP) stakeholders identified organophosphate (OP) pesticide-caused aquatic life toxicity as a priority issue in the Sacramento River watershed. The stakeholders agreed that the presence of these pesticides - particularly diazinon - in the watershed, at certain levels, cause aquatic toxicity and recommended that an OP pesticide management strategy be developed to reduce or eliminate that toxicity. The strategy includes information on agricultural methods believed to reduce the amount of OP pesticides washed off target area orchards and any subsequent loading to surface waters.

b. Previous assessment(s) used to establish your project goals and objectives, and to inform the basic assumptions of your proposal.

The dormant spray season coincides with the winter months when the area receives a majority of its annual rainfall. Pesticides applied during this period thus have the potential to wash off targeted areas of application and migrate with storm runoff water to streams in the Sacramento River Basin thus creating contaminant loads. Previous monitoring studies have shown that rain and associated runoff from winter storms plays an important role in the transport of diazinon from its point of application to the Sacramento River and its tributaries.

Diazinon has a relatively high solubility and low adsorptive capacity and tends to move into the liquid water phase in a wet environment and tends to remain in that phase. Water therefore provides an efficient transport mechanism. Because the frequency of storms during the dormant-spray season generally falls within the range of diazinon's persistence in the environment, winter storm water runoff may likely facilitate the movement of diazinon from its point of application to streams and rivers, including the Sacramento River.

Previous assessments (pesticide use reports) have also established the fact that grower's use of diazinon occurs during the winter months. Grower use during the winter months has therefore been assumed to be a contributing factor to the excess levels of diazinon in the Sacramento River. A logical assumption based on these previous assessments is that if pesticide levels are going to be reduced in the Sacramento River watershed, then users of pesticides must be informed and educated about the problem and possible solutions to the problem.

c. A description of the scientific assumptions used to develop the project goals, objectives and proposed actions, and the degree to which those assumptions are widely accepted (both in the science community, as a whole, and in the watershed community).

Diazinon is detected frequently in the Sacramento River and its tributaries during the dormant spray season. Toxicity associated with the presence of diazinon and other pesticides has been measured by standard tests on the aquatic invertebrate *Ceriodaphnia dubia* (Foe and Sheipline, 1993). In the Sacramento Valley, diazinon and methidathion are applied with spray oil to nut and stone fruit trees during the winter dormant season to control peach twig borer, San Jose scale, aphid and mite pests. The dormant season, which generally runs from December through March, is considered the best time to achieve control of these pests because the efficacy of pesticide applications is highest when trees have lost their leaves and better pesticide coverage is possible (Zalom *et. al*, 1995). Diazinon is also used in home, garden, and commercial applications in urban areas of the watershed.

The offsite movement of diazinon is problematic in areas with elevated surface water runoff levels. Understanding the physical and chemical interactions between OPs and the environment is essential in developing and evaluating mitigative measures for reducing off-site movement. Physical mechanisms that transport diazinon to surface waters in the Sacramento River watershed are rainfall (wash off and transport), irrigation return flow, direct deposition, and deposition in rainfall. The primary mechanism during winter months is rainfall.

Chemical properties that are important in the transport of OPs are those which effect its persistence in the environment and those which characterize its movement from one environmental matrix to another, such as movement from soil to water or movement from water to air (Larson *et. al*, 1997). Properties that affect a pesticide's ability to move from one environmental matrix to another are water solubility, sorption coefficient, and Henry's law constant. Diazinon's known chemical characteristics indicate that it will tend to move into the liquid water phase in a wet environment and will tend to remain in that phase. Water therefore provides an efficient transport mechanism for the offsite movement of the pesticide. Because the frequency of storms during the dormant spray season generally falls within the range of the pesticides persistence in the environment, it is reasonable to conclude that winter storm water runoff facilitates the movement of diazinon from its point of application to streams in the Sacramento River Basin.

These assumptions are widely accepted in the science community, and to a lesser degree in the watershed community. However, the degree of acceptance can be somewhat attributed to the level of education and outreach among both communities. As the agricultural community becomes further educated on the causes of the pesticide runoff problem and begins to implement changes toward the goal of improved water quality, the acceptance of these assumptions will increase throughout the watershed community.

d. A discussion of how the proposed actions are (are not) consistent with the scientific assumptions and previous assessments completed in the watershed.

This project's proposed actions are very consistent with the scientific assumptions upon which the project is based. The project's method of outreach and education seeks to bring about a strong recognition of the current problem and to implement changes that will reduce the pesticide runoff problem. By contacting growers and educating them concerning off-site movement of pesticides and management strategies that minimize runoff and protect water quality, we will be able to target

one of the groups responsible for the problem and to encourage the implementation of practices that directly minimize off-site movement of pesticides.

e. A description of what the baseline knowledge was used to support the management actions described in the proposal, or the likelihood that the management actions will generate more robust baseline knowledge.

The baseline knowledge used to support the management actions is that not all of the users of pesticides understand the potential for pesticide runoff, as indicated by audience responses in the 2000-2001 CURES grower outreach project with the SRWP. There is also strong anecdotal evidence that not all pesticide application equipment is calibrated as accurately as possible.

This project's management actions of site reviews, surveys (both baseline and follow-up), demonstration farms, continuing education meetings, and material distribution should serve to generate more robust baseline knowledge to build upon in future years. By generating a baseline and then determining progress from that baseline toward the objectives of the CALFED Watershed Program, this project will be providing an invaluable resource to develop further programs from this knowledge.

7. A. How will the proposal address multiple CALFED objectives (see Section I) in an integrated fashion, with emphasis on water supply reliability, water quality, ecosystem quality, and levee stability objectives CALFED has established for Stage 1 of the program?

This project directly addresses the CALFED priorities of improving and increasing aquatic and terrestrial habitat and ecological functions of the Bay-Delta and providing good water quality for all beneficial uses. This project provides a practical, implementable, and maintainable solution to the problem of off-site movement of pesticides. As widespread adoption of management practices that protect water quality occurs, the entire watershed community realizes benefits. This results in a solution that will have both political and economic staying power in future years. Wider adoption of management practices and technologies to protect water quality has the potential to improve conditions throughout the greater watershed of the Bay-Delta system. A key motivation to growers for correcting practices that contribute to non point source (NPS) pollution is protecting watershed resources, preserving water supply reliability, remaining exempt from discharge permits for NPS, and preserving the use of a range of pesticides for efficient crop production in the region. Pesticide and nutrient products can be credited with enabling farmers to economically produce an abundant harvest of fruits, vegetables, nuts, and grains in the Central Valley of California. Once growers adopt practices that protect water quality and preserve ecological functions in the Bay-Delta, these factors will motivate them to integrate the changes permanently in their farming operations. The effort will continue as water quality and ecosystem quality become a permanent subject in continuing education curricula directed to farmers and PCAs/CCAs in the Central Valley region, keeping the issue top-of-mind.

B. Explain how the proposal will help define and illustrate relationships between watershed processes (including human elements), watershed management, and the primary goals and objectives of the CALFED (see Section I).

A core component of this project is to build an infrastructure to effectively develop and distribute information related to managing and protecting ecosystem quality and water quality in the Bay-Delta system, in particular as it relates to farm inputs such as pesticides. This project will provide the means for rapidly communicating new and existing information to the farming community, helping improve the decision making process for enhancing watershed health. This program will also facilitate information exchange among important audiences and help augment local resource conservation education programs already in place with SRWP, various commodity groups, and the USDA-Natural Resource Conservation Districts. The goal is to achieve this both locally and watershed-wide by communicating the latest research, proven farming practices and related information to pesticide users in the watershed, directly assisting in the implementation of the CALFED priority of maintaining and restoring ecosystem quality and water quality throughout the watershed. Achieving this will necessitate working with many diverse groups to identify and communicate that information.

The outreach projects and materials produced for this project will be developed in collaboration with numerous experts in agriculture production, water quality, pest control and other scientific disciplines. Locally, the project will involve the assistance and expertise of Cooperative Extension Farm Advisors, County Agricultural Commissioners and local retailers of crop protection chemicals and fertilizers. A Project Advisory Team will include members from those disciplines plus the SRWP, a stakeholder group made up of various government agencies, educators, and local citizen groups with economic, regulatory, aesthetic, or personal interests in the health of the watershed, including its tributary watersheds.

This program emphasizes education and outreach, relying on both traditional (meetings, publications, personal contacts) and evolving (internet) outreach techniques to ensure thorough coverage of our targeted audiences. Involving local project collaborators, will help build local community capacity to effectively improve the ecosystem quality and water quality that affects the Bay-Delta system. Activities of local collaborators via this project will lead to adaptive management practices designed to specifically address OP pesticides and potentially other agricultural pesticides and effluents.

This project is well designed to address the specific watershed issue of agricultural pesticide runoff and will contribute to the maintenance and restoration of the Bay-Delta system. As growers in the Sacramento River watershed adopt practices that are in step with CALFED objectives, this project will also serve as a template to effectively communicate CALFED objectives to riparian growers in other watershed areas, particularly the San Joaquin River watershed.

C. Identify a lead agency for environmental compliance, such as CEQA or NEPA. Describe the program's strategy and timetable on environmental compliance.

This project's primary emphasis is education and outreach. There will be no disturbance or altering of the environment as a result of this project. None of the foregoing tasks will be altering or affecting the environment in any way that requires NEPA or CEQA compliance. The project will consult with CA Department of Water Resources (DWR) should any questions arise with regard to NEPA or CEQA.

8. Describe any other important aspects of your program that you could not address in the above items, and that you feel are critical to fully describing your project.

The Ag Implementation Group (AIG) was formed by members of the Sacramento River Watershed Program (SRWP), Organophosphate Pesticide Focus Group (OPFG). The AIG is responsible for implementing the Organophosphate (OP) Management Strategy for the Sacramento River watershed. The members of the AIG will collectively participate in overseeing development and implementation of this project. The AIG will function as a coalition of organizations and will work in conjunction with the SRWP (as it currently is and has in the past) throughout this three-year project period to apply adaptive management techniques to ensure success of the strategy.

CURES is an active member of the Sacramento River AIG. CURES (Coalition for Urban/Rural Environmental Stewardship) was founded in 1997 to support educational efforts for agricultural and urban communities focusing on the proper and judicious use of pest control products. Central to this goal is developing and implementing projects that advance stewardship practices when storing, handling or applying these products. CURES aim is to foster a broad-based coalition representing stewardship interests of agricultural, environmental, crop protection and water associations, government agencies, academia and public interest groups. CURES website (www.curesworks.org) endeavors to promote this stewardship.

This proposed project can be viewed as the means to align and facilitate communications and outreach of existing and planned efforts to control NPS pollution from agricultural sources in the Sacramento River watershed. The SRWP OP pesticide management strategy, related SRWP projects and existing BMP information will serve as the basis for initial information sources for developing farm surveys and site reviews.

This project includes promoting through various media the widespread adoption of specific field cultural practices (some still in development), on-site practices for mixing and loading sprayers, and pesticide application practices. While some practices are proven, others currently being researched in California will be promoted through this program once the usefulness is verified. In particular, this project would greatly enhance communication of research being developed on management practices to protect surface water in the CA. Dried Plum Board CWA § 319(h) project with prunes and peaches in Butte County. Similarly, research that will be developed by another proposed CALFED project "Implementation of Best Management Practices to Mitigate OP Pesticides Runoff," among other projects in the region will be communicated through this project.

This project would also assist the efforts already underway through the SRWP OP Focus Group as it executes its strategy for protecting the Sacramento River watershed from diazinon runoff. Efforts are also underway on the San Joaquin River pesticide TMDL. This project could provide an excellent template for future endeavors focused on problems with pesticide runoff and will also assist watershed groups, farm organizations, and other local stakeholders.

This project has received widespread support from both public and private entities involved in Sacramento watershed agriculture. Letters of support have been received (see attached) from the following collaborators:

- California Almond Board
- California Department of Pesticide Regulation
- California Dried Plum Board
- John Taylor/Wilbur-Ellis Co.
- Helena Chemical Company

- Butte County, Agriculture Department, Agricultural Commissioners Office
- Glenn County, Agriculture Department, Agricultural Commissioners Office, Surface Water Stewardship Program
- Sutter County, Agriculture Department, Agricultural Commissioners Office
- Yuba County, Agriculture Department, Agricultural Commissioners Office

Those who have indicated verbal support and have letters of support in development include:

California Regional Water Quality Control Board
California Farm Bureau Federation
California Plant Health Association

A "Notification of Local Government and Tribal Government and Local Involvement" letter concerning the intent to submit a CALFED proposal for activities in individual counties will be mailed to the responsible agencies. A copy of the letter and list of agencies is attached to this proposal.

CALFED 3 YEAR BUDGET - Budget Timeline

3-Year Budget: Nov, 2001 to October, 2004	Year 1 Completion Date	Year 1 Matching Funds	Year 1 CALFED Funds	Year 1 Total	Year 2 Completion Date	Year 2 Matching Funds	Year 2 CALFED Funds	Year 2 Total	Year 3 Completion Date	Year 3 Matching Funds	Year 3 CALFED Funds	Year 3 Total
Administration												
Project Oversight												
Project Management	Month 12		$ 28,800	$ 28,800	Month 12		$ 28,800	$ 28,800	Month 12		$ 28,800	$ 28,800
Administration Overhead (8%)	Month 12		$ 25,681	$ 25,681	Month 12		$ 8,351	$ 8,351	Month 12		$ 11,695	$ 11,695
The administrative overhead is added on to the final budget total to avoid double charging the 8%.												
Subtotal				$ 28,800				$ 28,800				$ 28,800
TOTAL - Administration				$ 28,800				$ 28,800				$ 28,800
Water Steward Program Materials												
Water Steward Pledge Materials												
Write Cover Letter	Month 1		$ 360	$ 360				$ -				$ -
Print Cover Letter	Month 1		$ 1,500	$ 1,500				$ -				$ -
Develop/Write/Layout Certificate	Month 1		$ 450	$ 450				$ -				$ -
Print Certificate	Month 1		$ 3,000	$ 3,000				$ -				$ -
Print CURES Orchard BMP Booklet	Month 1		$ 2,850	$ 2,850				$ -				$ -
Print CURES Mixing and Loading Booklet	Month 1		$ 2,850	$ 2,850				$ -				$ -
Management Practices Document Printing	Month 1	$ 12,000	$ -	$ 12,000				$ -				$ -
Develop BMP Posters	Month 1		$ 1,800	$ 1,800				$ -				$ -
Artwork, Layout	Month 1	$ 2,000	$ -	$ 2,000				$ -				$ -
Print BMP Posters	Month 1	$ 15,000	$ -	$ 15,000				$ -				$ -
Develop BMP Posters (Spanish)	Month 1		$ 1,800	$ 1,800				$ -				$ -
Artwork, Layout (Spanish)	Month 1		$ 1,000	$ 1,000				$ -				$ -
Print BMP Posters (Spanish)	Month 1	$ 15,000	$ -	$ 15,000				$ -				$ -
Binders	Month 1	$ 6,000	$ -	$ 6,000				$ -				$ -
Binders Compilation	Month 1		$ 4,500	$ 4,500				$ -				$ -
Subtotal				$ 70,110				$ -				$ -
Video on Pesticide Runoff Issue												
Video Project Management; Script Writing	Month 1		$ 6,600	$ 6,600				$ -				$ -
Video Production	Month 1		$ 22,500	$ 22,500				$ -				$ -
Video Duplication	Month 1		$ 9,000	$ 9,000				$ -				$ -
Subtotal				$ 38,100				$ -				$ -
Orchard Practices Survey												
Develop/Write Baseline Survey	Month 1		$ 2,400	$ 2,400				$ -				$ -
Print Baseline Survey	Month 1		$ 4,500	$ 4,500				$ -				$ -
Identify Riparian Growers (Data Analysis)	Month 1		$ 15,000	$ 15,000				$ -				$ -
Mail to Growers	Month 1		$ 4,500	$ 4,500				$ -				$ -
Intern Follow-Up Program (Helena)	Month 1		$ 15,000	$ 15,000				$ -				$ -
Compile Survey Results	Month 1		$ 10,000	$ 10,000				$ -				$ -
Subtotal				$ 51,400				$ -				$ -
Orchard Site Assessment Self-Audit												
Develop/Write Assessment	Month 1		$ 6,000	$ 6,000				$ -				$ -
Print Assessment	Month 1		$ 6,000	$ 6,000				$ -				$ -
Subtotal				$ 12,000				$ -				$ -
Distribute Water Steward Materials												
Mailing to Growers/Grower Groups	Month 3		$ 8,000	$ 8,000				$ -				$ -
Mailing to Dealers/PCA's	Month 3		$ 4,000	$ 4,000				$ -				$ -
Subtotal				$ 12,000				$ -				$ -
TOTAL - Water Steward Program Materials				$ 183,610				$ -				$ -

CALFED 3 YEAR BUDGET - Budget Timeline

3-Year Budget: Nov, 2001 to October, 2004	Year 1 Completion Date	Year 1 Matching Funds	Year 1 CALFED Funds	Year 1 Total	Year 2 Completion Date	Year 2 Matching Funds	Year 2 CALFED Funds	Year 2 Total	Year 3 Completion Date	Year 3 Matching Funds	Year 3 CALFED Funds	Year 3 Total
Ongoing Education, Demonstration Farms												
Education Presentations for Growers, PCA's												
Develop Presentation	Month 1		$ 4,200	$ 4,200	Month 1		$ 4,200	$ 4,200	Month 1		$ 4,200	$ 4,200
Locate/Organize Meetings	Month 5		$ 3,600	$ 3,600	Month 5		$ 3,600	$ 3,600	Month 5		$ 3,600	$ 3,600
Give 15 Presentations + Expenses	Month 5		$ 19,500	$ 19,500	Month 5		$ 19,500	$ 19,500	Month 5		$ 19,500	$ 19,500
Subtotal				$ 27,300				$ 27,300				$ 27,300
Water Steward Reminder Postcards (Years 2 & 3)								$ -				$ -
Develop/Write Postcard				$ -	Month 1		$ 960	$ 960			$ 960	$ 960
Print Postcard				$ -	Month 1		$ 1,050	$ 1,050			$ 1,050	$ 1,050
Mail Postcards				$ -	Month 3		$ 1,680	$ 1,680			$ 1,680	$ 1,680
Subtotal				$ -				$ 3,690				$ 3,690
Demonstration Farms												
Develop Maps to Demo Farm Locations	Month 1		$ 4,200	$ 4,200	Month 1			$ -	Month 1			$ -
Organize/Setup Demo Farms	Month 5		$ 4,800	$ 4,800	Month 5		$ 4,800	$ 4,800	Month 5		$ 4,800	$ 4,800
Map artwork	Month 1		$ 2,500	$ 2,500	Month 1			$ -	Month 1			$ -
Print maps	Month 1		$ 3,000	$ 3,000	Month 1			$ -	Month 1			$ -
Subtotal				$ 14,500				$ 4,800				$ 4,800
Calibration Equipment												
Purchase Calibration Equipment	Month 1	$ 13,341	$ 75,600	$ 88,941				$ -				$ -
Purchase Calibration Equipment Trailer	Month 1		$ 5,000	$ 5,000				$ -				$ -
Coordinate Calibration Clinics	Month 5		$ 4,800	$ 4,800	Month 5		$ 4,800	$ 4,800	Month 5		$ 4,800	$ 4,800
Transport Calibration Equip: Helena	Month 12	$ -	$ 10,000	$ 10,000	Month 12	$ -	$ 10,000	$ 10,000	Month 12	$ -	$ 10,000	$ 10,000
Transport Calibration Equip: Wilbur Ellis	Month 12	$ -	$ 10,000	$ 10,000	Month 12	$ -	$ 10,000	$ 10,000	Month 12	$ -	$ 10,000	$ 10,000
Subtotal				$ 118,741				$ 24,800				$ 24,800
TOTAL - Ongoing Education, Demonstration Farms				$ 160,541				$ 60,590				$ 60,590
Research and Monitoring Program Results												
Follow-Up Orchard Practices Survey												
Develop/Write Survey	Month 1			$ -	Month 1			$ -	Month 1		$ 2,400	$ 2,400
Print Survey	Month 1			$ -	Month 1			$ -	Month 1		$ 4,500	$ 4,500
Mail Survey	Month 1			$ -	Month 1			$ -	Month 1		$ 4,500	$ 4,500
Personal Follow-Up on Survey (Helena)	Month 8			$ -	Month 8			$ -	Month 8		$ 15,000	$ 15,000
Compile/Analyze Survey Results	Month 10			$ -	Month 10			$ -	Month 10		$ 10,000	$ 10,000
Subtotal				$ -				$ -				$ 36,400
Attendance at Field Days/Continuing Education Meetings												
Compile/Analyze Feedback Data				$ -	Month 10		$ 4,800	$ 4,800	Month 10		$ 4,800	$ 4,800
Subtotal				$ -				$ 4,800				$ 4,800
TOTAL - Research and Monitoring Program Results				$ -				$ 4,800				$ 41,200

CALFED 3 YEAR BUDGET - Budget Timeline

3-Year Budget: Nov, 2001 to October, 2004	Year 1 Completion Date	Year 1 Matching Funds	Year 1 CALFED Funds	Year 1 Total	Year 2 Completion Date	Year 2 Matching Funds	Year 2 CALFED Funds	Year 2 Total	Year 3 Completion Date	Year 3 Matching Funds	Year 3 CALFED Funds	Year 3 Total
CALFED Reporting and Presentations												
Quarterly Progress Reports												
Progress Report #1	Month 3		$ 3,600	$ 3,600	Month 3		$ 2,400	$ 2,400	Month 3		$ 2,400	$ 2,400
Progress Report #2	Month 6		$ 2,400	$ 2,400	Month 6		$ 2,400	$ 2,400	Month 6		$ 2,400	$ 2,400
Progress Report #3	Month 9		$ 2,400	$ 2,400	Month 9		$ 2,400	$ 2,400	Month 9		$ 2,400	$ 2,400
Subtotal			$ 14,400	$ 8,400			$ 14,400	$ 7,200				$ 7,200
Annual Report			$ 3,000	$ 3,000			$ 3,000	$ 3,000	Month 12		$ 3,000	$ 3,000
Final Report - Draft				$ -				$ -	Month 10		$ 2,400	$ 2,400
Final Report				$ -				$ -	Month 12		$ 1,800	$ 1,800
Summary Presentation to CALFED				$ -				$ -	Month 12		$ 1,200	$ 1,200
Subtotal				$ 3,000				$ 10,200				$ 15,600
TOTAL - Reporting and Presentations				$ 11,400				$ 10,200				$ 15,600
Annual Totals		$ 63,341	$ 321,010	$ 384,351		$ -	$ 104,390	$ 104,390		$ -	$ 146,190	$ 146,190
			1 Year Total	$ 384,351			**2 Year Total**	$ 488,741			**3 Year Total**	$ 634,931

Matching Funds	**$ 63,341**
CALFED Funding (without Administrative Overhead of 8%)	**$ 571,590**
CALFED Funding (Includes Administrative Overhead of 8%)	**$ 617,317**
Budget Grand Total (Includes Administrative Overhead)	**$ 680,658**

CALFED 3 YEAR BUDGET - Budget Summary

Task Description	Labor Rate	Hours	Total Labor	Supplies	Materials	Subcontract	Match	CALFED	Total
Administration	$ 120.00	720	$ 86,400					$ 86,400	$ 86,400
Administration Overhead			$ 45,727					$ 45,727	$ 45,727
Water Steward Program Materials	$ 120.00	158	$ 18,960	$ 40,000	$ 124,650		$ 50,000	$ 133,610	$ 183,610
Ongoing Education, Demonstration Farms	$ 120.00	486	$ 58,320	$ 152,441	$ 10,960		$ 13,341	$ 208,380	$ 221,721
	$ 25.00	2400	$ 60,000					$ 60,000	$ 60,000
Research and Monitoring Program Results	$ 120.00	80	$ 9,600		$ 36,400			$ 46,000	$ 46,000
CALFED Reporting and Presentations	$ 120.00	310	$ 37,200					$ 37,200	$ 37,200
		Totals:	$ 316,207	$ 192,441	$ 172,010	$ -	$ 63,341	$ 617,317	$ 680,658

CALFED 3 YEAR BUDGET - Budget Detail

3-Year Budget: Nov, 2001 to October, 2004	Year One Unit	Year One Quantity	Year One Cost	Year Two Unit	Year Two Quantity	Year Two Cost	Year Three Unit	Year Three Quantity	Year Three Cost	Cumulative Totals
Administration										
Project Coordination										
Project Management	$ 120.00	240	$ 28,800	$ 120.00	240	$ 28,800	$ 120.00	240	$ 28,800	$ 86,400
CURES Administrative Overhead (8%)	$ 25,681	1	$ 25,681	$ 8,351	1	$ 8,351	$ 11,695	1	$ 11,695	$ 45,727
The administrative overhead is added on to the final budget total to avoid double charging the 8%.										
Subtotal			$ 28,800			$ 28,800			$ 28,800	$ 132,127
TOTAL - Administration			$ 28,800			$ 28,800			$ 28,800	$ 132,127
Water Steward Program Materials										
Water Steward Pledge Materials										
Write Cover Letter	$ 120.00	3	$ 360			$ -			$ -	$ 360
Print Cover Letter	$ 0.50	3000	$ 1,500			$ -			$ -	$ 1,500
Develop/Write/Layout Certificate	$ 450.00	1	$ 450			$ -			$ -	$ 450
Print Certificate	$ 1.00	3000	$ 3,000			$ -			$ -	$ 3,000
Print CURES Orchard BMP Booklet	$ 0.95	3000	$ 2,850			$ -			$ -	$ 2,850
Print CURES Mixing and Loading Booklet	$ 0.95	3000	$ 2,850			$ -			$ -	$ 2,850
Management Practices Document Printing	$ 4.00	3000	$ 12,000			$ -			$ -	$ 12,000
Develop BMP Posters	$ 120.00	15	$ 1,800			$ -			$ -	$ 1,800
Poster artwork, layout	$ 2,000.00	1	$ 2,000			$ -			$ -	$ 2,000
Print BMP Posters	$ 5.00	3000	$ 15,000			$ -			$ -	$ 15,000
Develop BMP Posters (Spanish)	$ 120.00	15	$ 1,800			$ -			$ -	$ 1,800
Poster artwork, layout (Spanish)	$ 1,000.00	1	$ 1,000			$ -			$ -	$ 1,000
Print BMP Posters (Spanish)	$ 5.00	3000	$ 15,000			$ -			$ -	$ 15,000
Binders	$ 2.00	3000	$ 6,000			$ -			$ -	$ 6,000
Binders Compilation	$ 1.50	3000	$ 4,500			$ -			$ -	$ 4,500
Subtotal			$ 70,110			$ -			$ -	$ 70,110
Video on Pesticide Runoff Issue										
Video Project Management; Script Writing	$ 120.00	55	$ 6,600			$ -			$ -	$ 6,600
Video Production	$ 1,500.00	15	$ 22,500			$ -			$ -	$ 22,500
Video Duplication	$ 3.00	3000	$ 9,000			$ -			$ -	$ 9,000
Subtotal			$ 38,100			$ -			$ -	$ 38,100
Orchard Practices Survey										
Develop/Write Baseline Survey	$ 120.00	20	$ 2,400			$ -			$ -	$ 2,400
Print Baseline Survey	$ 1.50	3000	$ 4,500			$ -			$ -	$ 4,500
Identify Riparian Growers (Data Analysis)	$ 15,000.00	1	$ 15,000			$ -			$ -	$ 15,000
Mail to Growers	$ 1.50	3000	$ 4,500			$ -			$ -	$ 4,500
Intern Follow-Up Program (Helena)	$ 15,000.00	1	$ 15,000			$ -			$ -	$ 15,000
Compile Survey Results	$ 10,000.00	1	$ 10,000			$ -			$ -	$ 10,000
Subtotal			$ 51,400			$ -			$ -	$ 51,400
Orchard Site Assessment Self-Audit										
Develop/Write Assessment	$ 120.00	50	$ 6,000			$ -			$ -	$ 6,000
Print Assessment	$ 2.00	3000	$ 6,000			$ -			$ -	$ 6,000
Subtotal			$ 12,000			$ -			$ -	$ 12,000
Distribute Water Steward Materials										
Mailing to Growers/Grower Groups	$ 4.00	2000	$ 8,000			$ -			$ -	$ 8,000
Mailing to Dealers/PCA's	$ 4.00	1000	$ 4,000			$ -			$ -	$ 4,000
Subtotal			$ 12,000			$ -			$ -	$ 12,000
TOTAL - Water Steward Program Materials			$ 183,610			$ -			$ -	$ 183,610

CALFED 3 YEAR BUDGET - Budget Detail

3-Year Budget: Nov, 2001 to October, 2004	Year One			Year Two			Year Three			Cumulative
	Unit	Quantity	Cost	Unit	Quantity	Cost	Unit	Quantity	Cost	Totals
Ongoing Education, Demonstration Farms										
Education Presentations for Growers, PCA's										
Develop Presentation	$ 120.00	35	$ 4,200	$ 120.00	35	$ 4,200	$ 120.00	35	$ 4,200	$ 12,600
Locate/Organize Meetings	$ 120.00	30	$ 3,600	$ 120.00	30	$ 3,600	$ 120.00	30	$ 3,600	$ 10,800
Give 15 Presentations + Expenses	$ 1,300.00	15	$ 19,500	$ 1,300.00	15	$ 19,500	$ 1,300.00	15	$ 19,500	$ 58,500
Subtotal			$ 27,300			$ 27,300			$ 27,300	$ 81,900
Water Steward Reminder Postcards (Years 2 & 3)										
Develop/Write Postcard			$ -	$ 120.00	8	$ 960	$ 120.00	8	$ 960	$ 1,920
Print Postcard			$ -	$ 0.35	3000	$ 1,050	$ 0.35	3000	$ 1,050	$ 2,100
Mail Postcards			$ -	$ 0.56	3000	$ 1,680	$ 0.56	3000	$ 1,680	$ 3,360
Subtotal			$ -			$ 3,690			$ 3,690	$ 7,380
Demonstration Farms										
Develop Maps to Demo Farm Locations	$ 120.00	35	$ 4,200			$ -			$ -	$ 4,200
Organize/Setup Demo Farms	$ 120.00	40	$ 4,800	$ 120.00	40	$ 4,800	$ 120.00	40	$ 4,800	$ 14,400
Map artwork	$ 2,500.00	1	$ 2,500			$ -			$ -	$ 2,500
Print maps	$ 1.00	3000	$ 3,000			$ -			$ -	$ 3,000
Subtotal			$ 14,500			$ 4,800			$ 4,800	$ 24,100
Calibration Equipment										
Purchase Calibration Equipment	$ 88,941.00	1	$ 88,941			$ -			$ -	$ 88,941
Purchase Calibration Equipment trailer	$ 5,000.00	1	$ 5,000			$ -			$ -	$ 5,000
Coordinate Calibration Clinics	$ 120.00	40	$ 4,800	$ 120.00	40	$ 4,800	$ 120.00	40	$ 4,800	$ 14,400
Transport Calibration Equipment: Helena	$ 25.00	400	$ 10,000	$ 25.00	400	$ 10,000	$ 25.00	400	$ 10,000	$ 30,000
Transport Calibration Equipment; Wilbur Ellis	$ 25.00	400	$ 10,000	$ 25.00	400	$ 10,000	$ 25.00	400	$ 10,000	$ 30,000
Subtotal			$ 118,741			$ 24,800			$ 24,800	$ 168,341
TOTAL - Ongoing Education, Demonstration Farms			$ 160,541			$ 60,590			$ 60,590	$ 281,721
Research and Monitoring Program Results										
Follow-Up Orchard Practices Survey										
Develop/Write Survey			$ -			$ -	$ 120.00	20	$ 2,400	$ 2,400
Print Survey			$ -			$ -	$ 1.50	3000	$ 4,500	$ 4,500
Mail Survey			$ -			$ -	$ 1.50	3000	$ 4,500	$ 4,500
Personal Follow-Up on Survey (Helena)			$ -			$ -	$ 15,000.00	1	$ 15,000	$ 15,000
Compile/Analyze Survey Results			$ -			$ -	$ 10,000.00	1	$ 10,000	$ 10,000
Subtotal			$ -			$ -			$ 36,400	$ 36,400
Attendance at Field Days/Continuing Education Meetings										
Compile/Analyze Feedback Data			$ -	$ 120.00	40	$ 4,800	$ 120.00	40	$ 4,800	$ 9,600
Subtotal			$ -			$ 4,800			$ 4,800	$ 9,600
TOTAL - Research and Monitoring Program Results			$ -			$ 4,800			$ 41,200	$ 46,000

CALFED 3 YEAR BUDGET - Budget Detail

3-Year Budget: Nov, 2001 to October, 2004	Year One			Year Two			Year Three			Cumulative
	Unit	Quantity	Cost	Unit	Quantity	Cost	Unit	Quantity	Cost	Totals
CALFED Reporting and Presentations										
Quarterly Progress Reports										
Progress Report # 1	$ 120.00	30	$ 3,600	$ 120.00	20	$ 2,400	$ 120.00	20	$ 2,400	$ 8,400
Progress Report # 2	$ 120.00	20	$ 2,400	$ 120.00	20	$ 2,400	$ 120.00	20	$ 2,400	$ 7,200
Progress Report # 3	$ 120.00	20	$ 2,400	$ 120.00	20	$ 2,400	$ 120.00	20	$ 2,400	$ 7,200
Subtotal			$ 8,400			$ 7,200			$ 7,200	$ 22,800
Annual Report	$ 120.00	25	$ 3,000	$ 120.00	25	$ 3,000	$ 120.00	25	$ 3,000	$ 9,000
Final Report - Draft			$ -			$ -	$ 120.00	20	$ 2,400	$ 2,400
Final Report			$ -			$ -	$ 120.00	15	$ 1,800	$ 1,800
Summary Presentation to CALFED			$ -			$ -	$ 120.00	10	$ 1,200	$ 1,200
TOTAL - CALFED Reporting and Presentations			$ 11,400			$ 10,200			$ 15,600	$ 37,200
Annual Totals			$ 384,351			$ 104,390			$ 146,190	$ 680,658
		1 Year Total	**$ 384,351**		**2 Year Total**	**$ 488,741**		**3 Year Total**	**$ 634,931**	

Total	**$634,931**
Administrative Overhead	**$45,727**
Budget Grand Total	**$ 680,658**